TP-MS308/TP-MS316/TP-MS324

Power Source Equipment

(AC+DC Input, Gigabit PoE Midspan)

USER'S MANUAL

TYCON POWER SYSTEMS

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1. Introduction

Mstronic's family of Power over Ethernet TP-MS308/TP-MS316/TP-MS324 (Power Sourcing Equipment), is an AC+DC input, gigabit PoE Midspan which injects power over data-carrying Ethernet cabling. The TP-MS308/TP-MS316/TP-MS324, support 8, 16 and 24 ports respectively in a 10/100/1000BaseT Ethernet network, over TIA/EIA-568 Category 5/5e/6 cabling. DC operating power, for data terminal units, is fed over data pairs C (4/5) and D (7/8) of the cabling. Remote management of up to 8 units via TCP/IP protocol is featured, which allows greater flexibility in the locating of network devices and significantly decreasing installation costs in many cases.

The TP-MS308/TP-MS316/TP-MS324 follows the IEEE 802.3af standard and is completely compatible with existing Ethernet switches and networked devices. This device normally powers PDs (Powered Devices) that are Power over Ethernet enabled or are equipped to receive power over Ethernet. The PSE tests whether a networked device is PoE-capable and power is never transmitted unless a Powered Device is at other end of the cable. It also continues to monitor the channel. If the Powered Device does not draw a minimum current, because it has been unplugged or physically turned off, the PSE shuts down the power to that port. Devices which are not equipped to receive power over Ethernet may require an external splitter in order to be powered. Contact Mstronic for such a splitter.

Features

8/16/24 port Power Sourcing Equipment (PoE midspan)
Support 8/16/24 ports full load, max. 134W/268W/403W
IEEE802.3af compliance
Remote power feeding of Ethernet terminals up to 100 meters
Auto detect PD, and support manual detect PD
Centralized power distribution for PoE powered Device (PD)
Independent overload and short-circuit protection per channel
Supports IEEE 802.3af non-standard device
Auto refresh port status and support Plug and Play feature for PD
Standard 19" or 23" rack mountable
DIY upgrade from 8 port to 24 port available
Remote manage up to 8 units via TCP/IP protocol
DC input available, can work with battery, non-interrupt performance.

Package Contents

Unpack the contents of the TP-MS308/TP-MS316/TP-MS324 and verify them against the checklist below.

TP-MS308/TP-MS316/TP-MS324 x 1
Power Cord x 1
Bracket x 2 (for 19" rack mounted)
CD-ROM x 1 (Software Utility + User Manual)

Compare the contents of your TP-MS308/TP-MS316/TP-MS324 package with the standard checklist above. IF any item is missing or damaged, please contact your local dealer for service.

2. Hardware Description

This Section mainly describes the hardware of the TP-MS308/TP-MS316/TP-MS324 and gives a physical and functional overview.

Physical Dimension

TP-MS308/TP-MS316/TP-MS324 physical dimension is: 430mm x 290mm x 44mm (Lx W x H) (1U,19" or 23" Rack mountable)

Front Panel

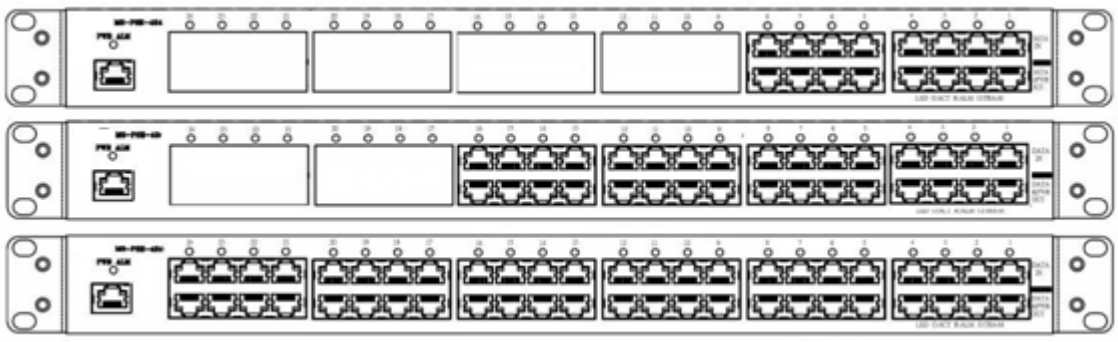


Figure 2-1. The Front panel of TP-MS308/TP-MS316/TP-MS324

The Front Panel of the TP-MS308/TP-MS316/TP-MS324 consists of 8/16/24 x RJ-45 Ethernet ports (data), 8/16/24 x RJ-45 PoE ports (data + power), 8/16/24 x LED port indicators, one LED power indicator and one RJ-45 remote control port (include one LED).

LED Indicators

The LED Indicators gives real-time information of systematic operation status. The following table provides descriptions of LED status and their meaning.

LED	Status	Color	Description
RJ45	On	Green	A network device is detected(10/100/1000 Mbps) but no communication activity is detected
	Blinking	Green	The Ethernet port is transmitting to, or receiving package from another device
	Off	--	No device is detected
Power	On	Green	Power feeding normally
	On	Red	Power or fan alarm
	Off	--	Power off
Ports	On	Green	Power feeding
	Blinking	Orange	Detecting
	On	Orange	The port has been shutdown No power feeding
	On	Red	Alarm No power feeding
	Off	--	Unknown device attached No power feeding

Table 2-1. The Description of LED Indicators

Rear Panel

Figure 2-2. The Rear Panel of TP-MS308/TP-MS316/TP-MS324

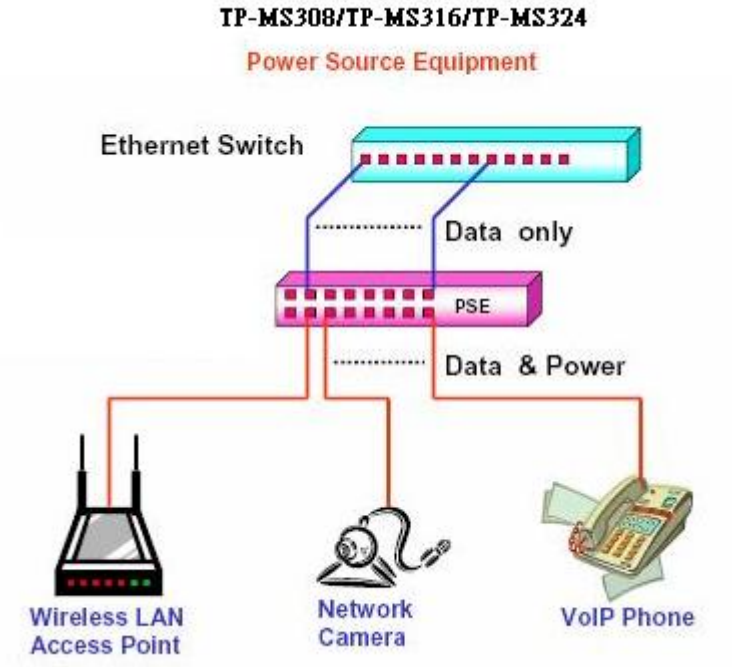
The AC inlet, DC input terminal and 2 Ventilation fan are located at the rear panel of the TP-MS308/TP-MS316/TP-MS324. The device will work with AC in the range 100-240V AC, 50-60Hz. Or work with DC -48V(-42V~-57V).

Power On

Connect the power cord to the power socket on the rear panel of the PSE. The other side of power cord connects to the power outlet. The internal power supply of the PSE works with the voltage range of 100V-240VAC, frequency 50~60Hz, or with voltage range of DC -42V~-57V. Check the port, the power indicator will self-test on the front panel to see if power is properly supplied.

Network Application

The PSE can provide power to the PD which follow the IEEE 802.3af standard in the network. It can solve the problem of position limitation. The network device can be installed in a more appropriate position for better performance. The following figure is an example of a network application for PSE

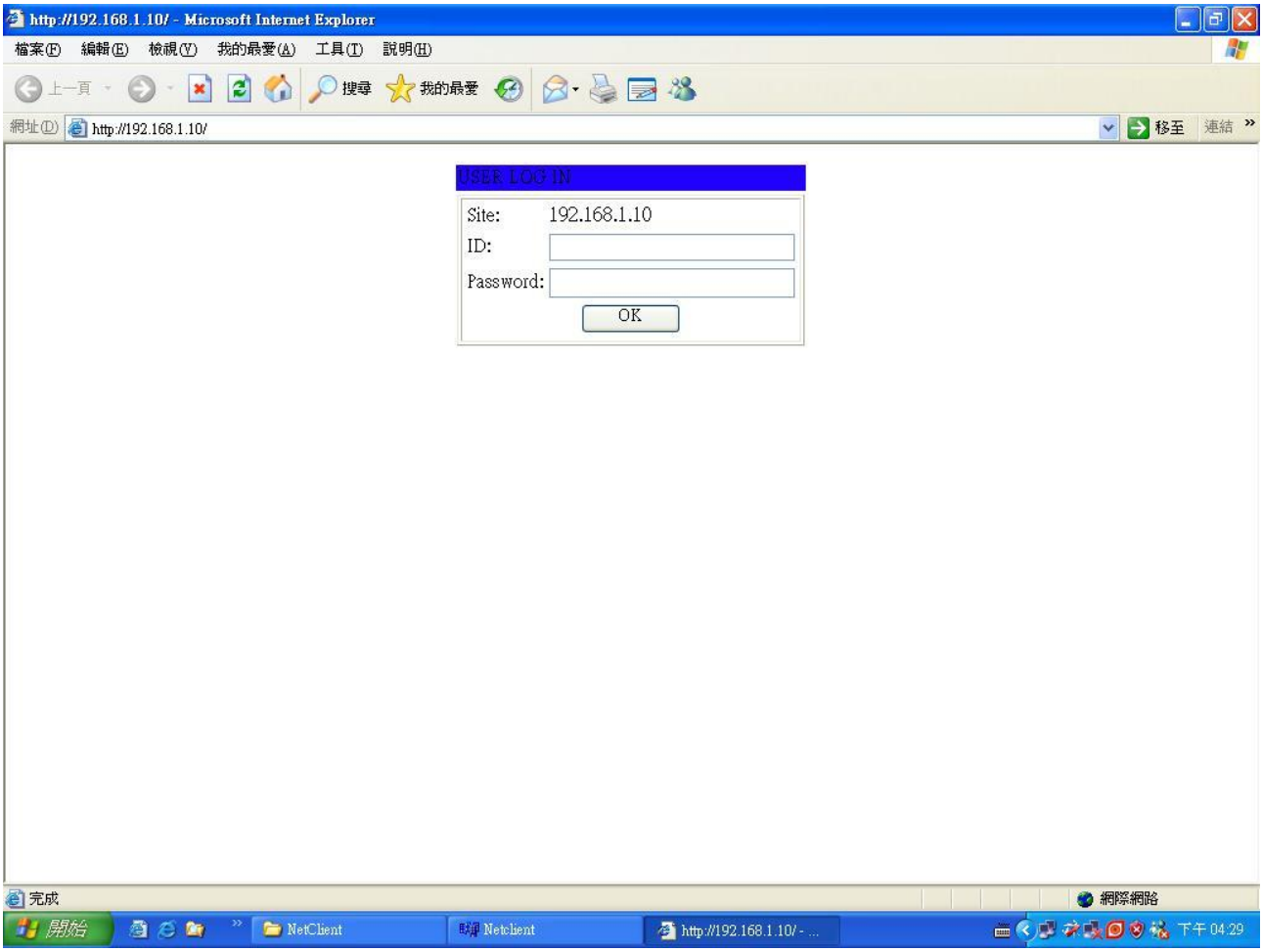


RJ-45 Remote Control Port

TP-MS308/TP-MS316/TP-MS324 can remotely manage the PoE via the network. To manage TP-MS308/TP-MS316/TP-MS324, you must to set the TP-MS308/TP-MS316/TP-MS324 TCP/IP parameter.
TP-MS308/TP-MS316/TP-MS324 allowed you to use a standard Web-browser such as Microsoft Internet Explorer or Mozila, to set the TCP/IP parameter.

Before you use the web interface to set the PoE TCP/IP, verify that TP-MS308/TP-MS316/TP-MS324 is properly installed on your network and PC on the network can access PoE via the web-browser.

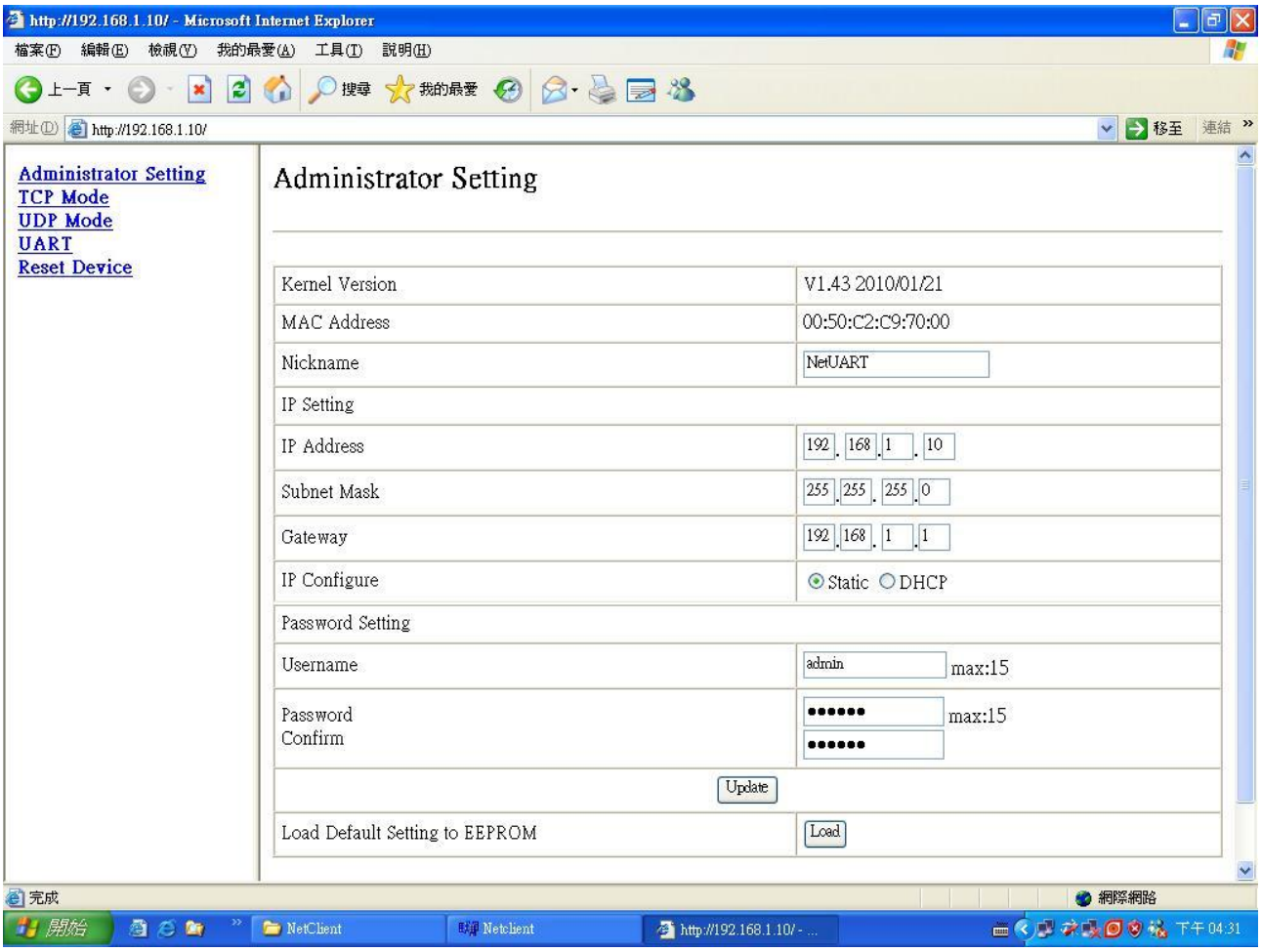
1. Verify that PC network interface card (NIC) is operational on the TCP/IP protocol.
2. Supply power to TP-MS308/TP-MS316/TP-MS324.
3. Use RJ45 cable, connect TP-MS308/TP-MS316/TP-MS324 direct to your PC.
4. Make sure the TP-MS308/TP-MS316/TP-MS324 default IP is 192.168.1.10.
5. Set your PC IP to 192.168.1.2 or other IP address which is located in the 192.168.1.x subnet.
6. Make sure the connector is OK (Ping 192.168.1.10 on the DOS mode).
7 Start the web-browser and type http://192.168.1.10 (or used PoE IP setting icon in the PoE management software).
8. The login in screen will appear next.



9. Key in ID (user name) and password to enter PoE TCP/IP parameter setting. Default ID and password is admin and system.

10. TP-MS308/TP-MS316/TP-MS324 TCP/IP parameter has 4 pages interface (administrator setting, TCP Mode, UDP Mode and UART). You must change the administrator & TCP mode to fit your network.

11. Administrator setting: you can assign nickname, IP setting, user name, password and view system information.



Nickname: You can assign a name to the device.

IP Address: You must assign the IP address reserved by your network. The default IP is 192.168.1.10.

Subnet Mask: You can assign the subnet mask for the IP address. The default subnet mask is 255.255.255.0.

Gateway: You can assign the gateway here. The default gateway is 192.168.1.1.

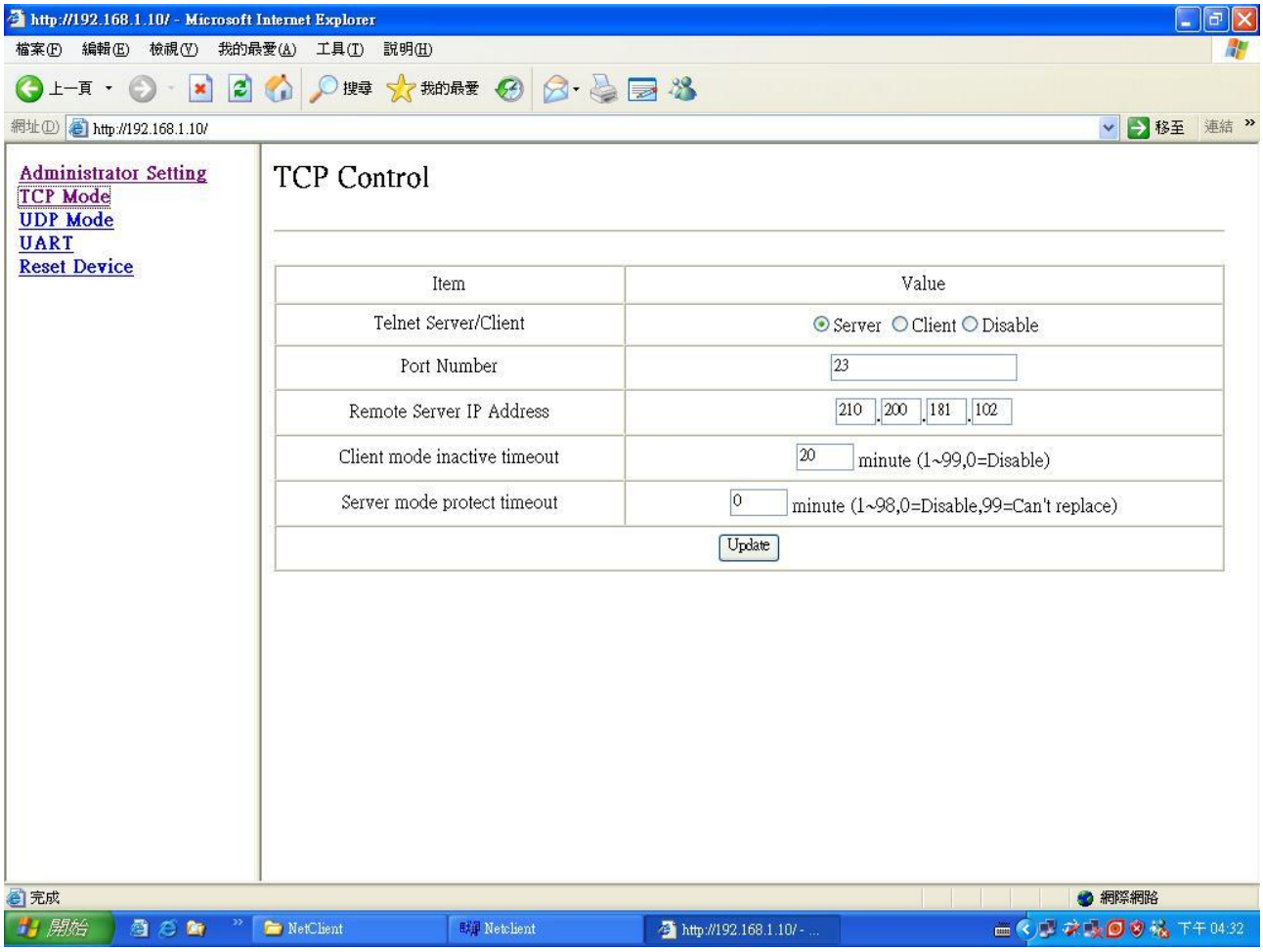
IP Configure: You must assign to Static for PoE serve operation. The default IP configure is Static.

Username: You can assign new user name. The default setting is admin.

Password/Confirm: You can type in new password here. The default setting is system.

When you have finished the set up, click on Update to update your setting.

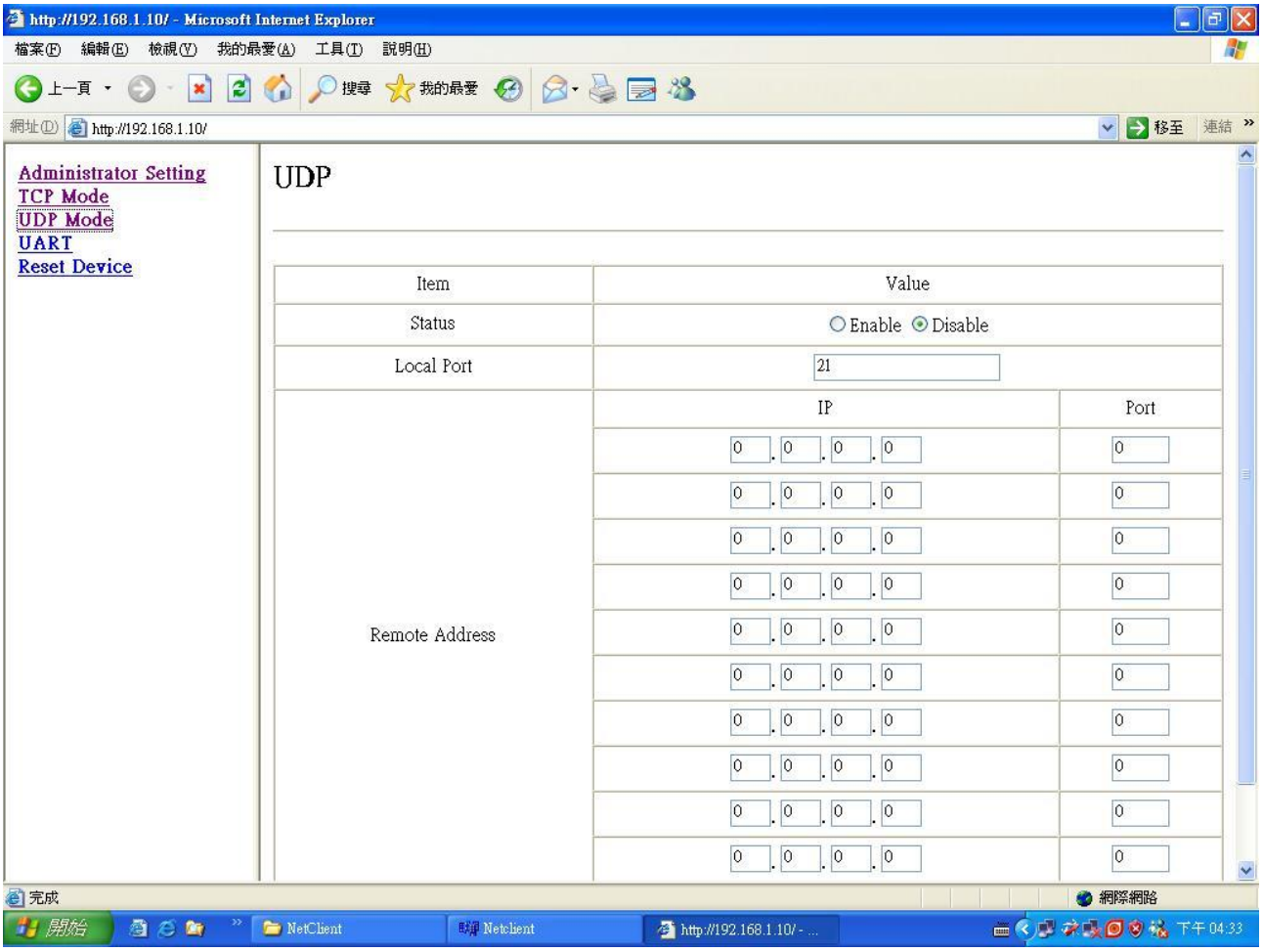
12. TCP Mode: You can update the TCP control parameter here.



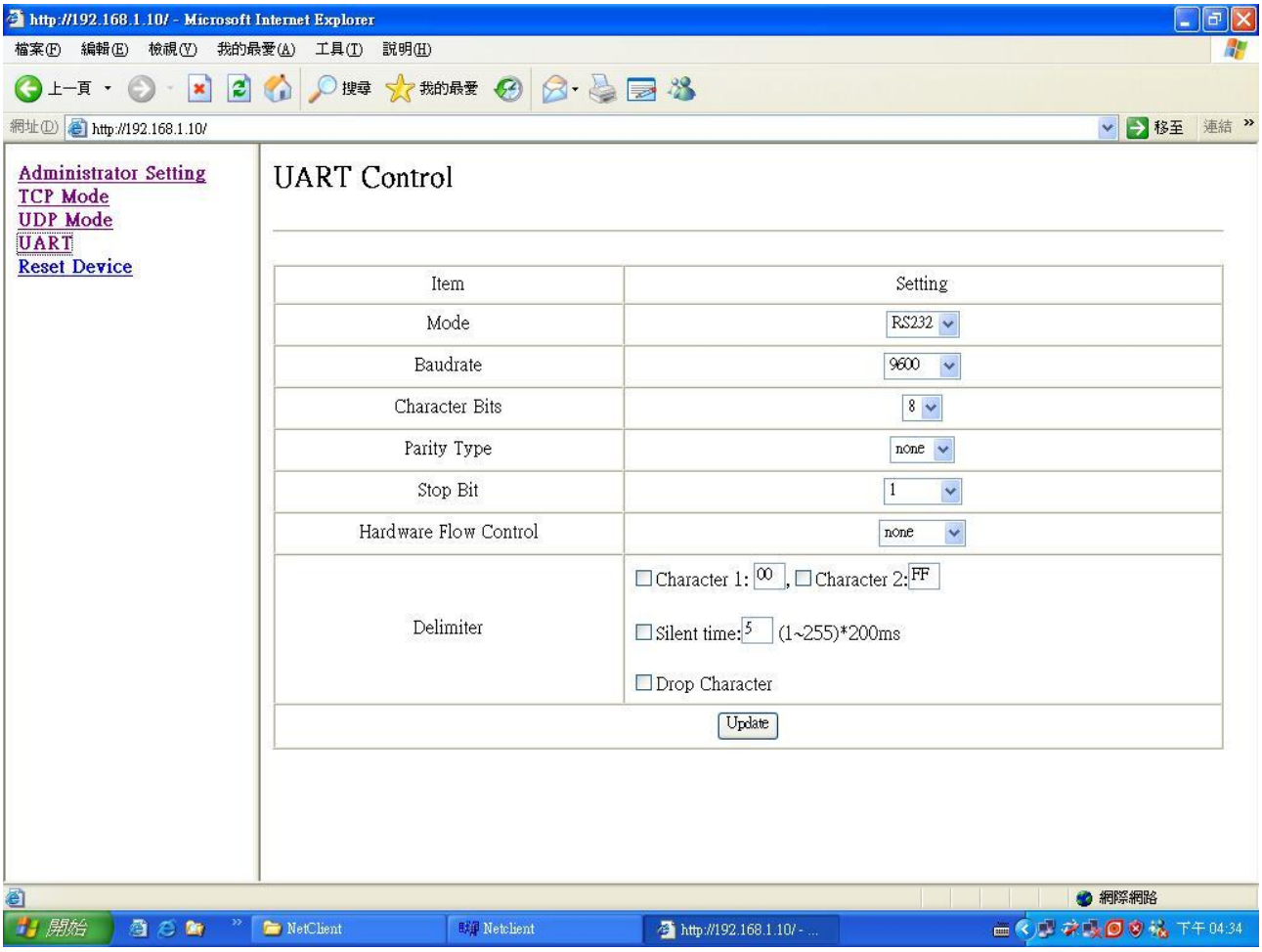
Telnet Server/Client: Set to Server for PoE management operation.
Port Number: You can assign port number for TCP/IP operation. The default Port Number is 23.
Remote Server IP Address: Unused.
Clint mode inactive timeout: Unused.
Server mode protect timeout: Set to 0(Disable) for normal operation.

When you have finished the set up, click on Update to update your setting.

13. UDP Mode: This mode is not used in the PoE application.



14. UART: You must set UART Control to RS232,9600,8,N,1 for PoE operation.



Mode: Set to RS232 for PoE operation.

Baud rate: Set to 9600 bps for PoE operation.

Character Bits: Set to 8 bits for PoE operation.

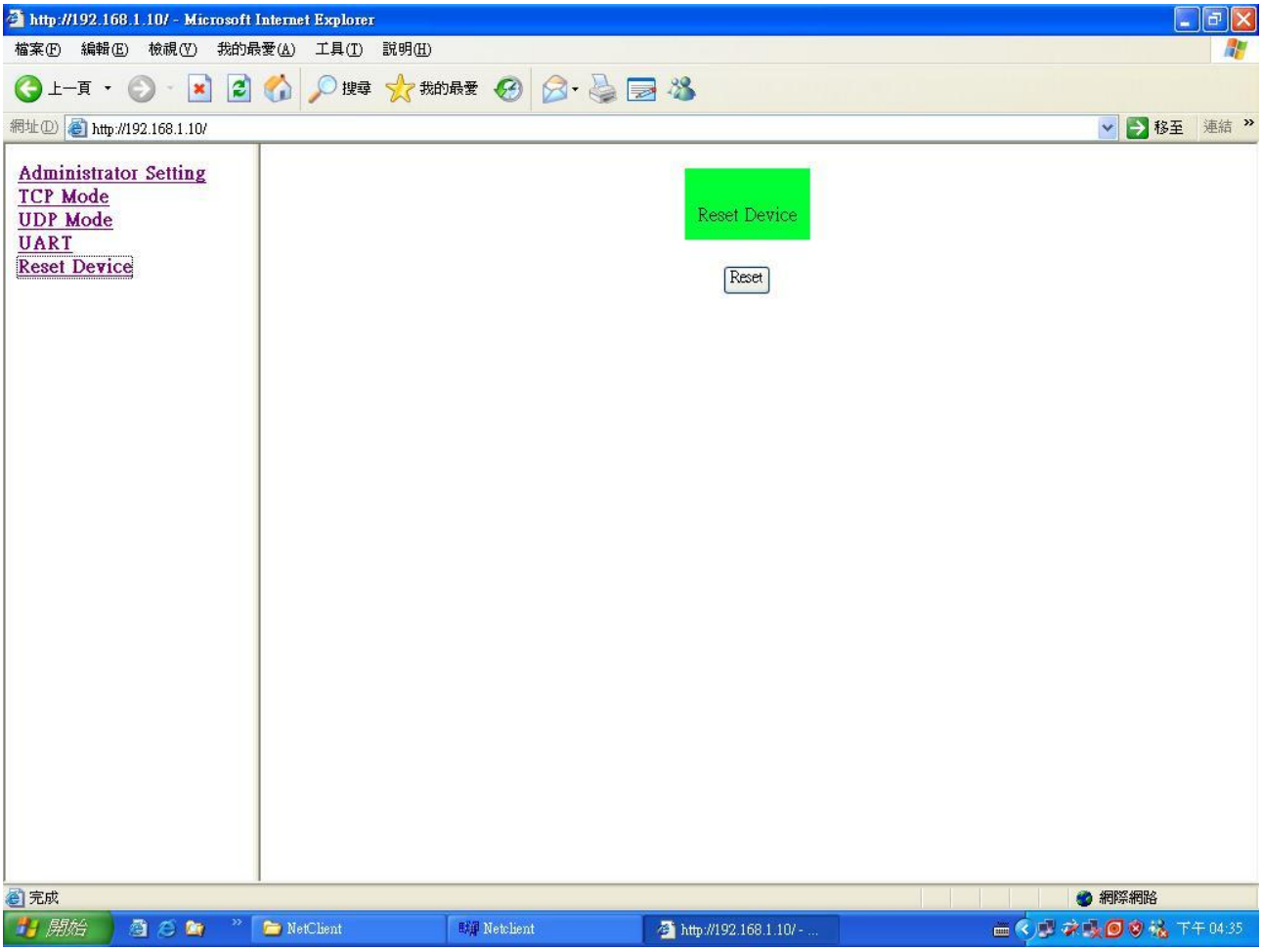
Parity Type: Set to none parity for PoE operation.

Stop Bit: Set to 1 stop bit for PoE operation.

Hardware Flow Control: Set to none flow control for PoE operation.

When you have finished the set up, click on Update to update your setting.

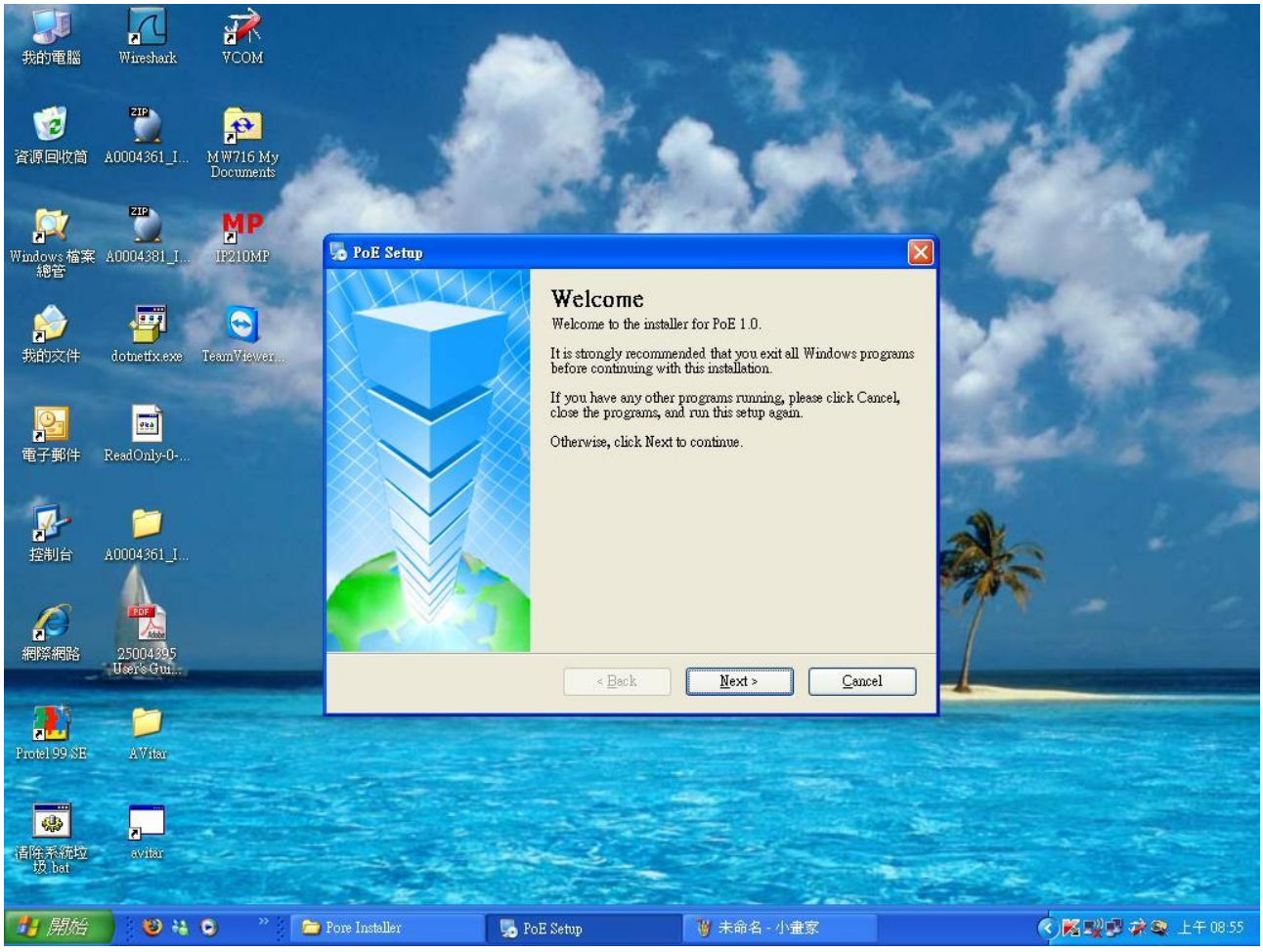
15. When you have configured your set up, you must reset the device to take effect.



3. Software Utility Installation

Before you start to remote configure the PD, please install the software utility. Through the software utility, you can easily to control the PD which connects with PoE and view the PD parameter information. The software utility provides GUI interface and it is easy to install. The software utility supports Windows environment – Window 98, 2000, XP, Vista and Window 7. Please follow the below steps to install the software utility.

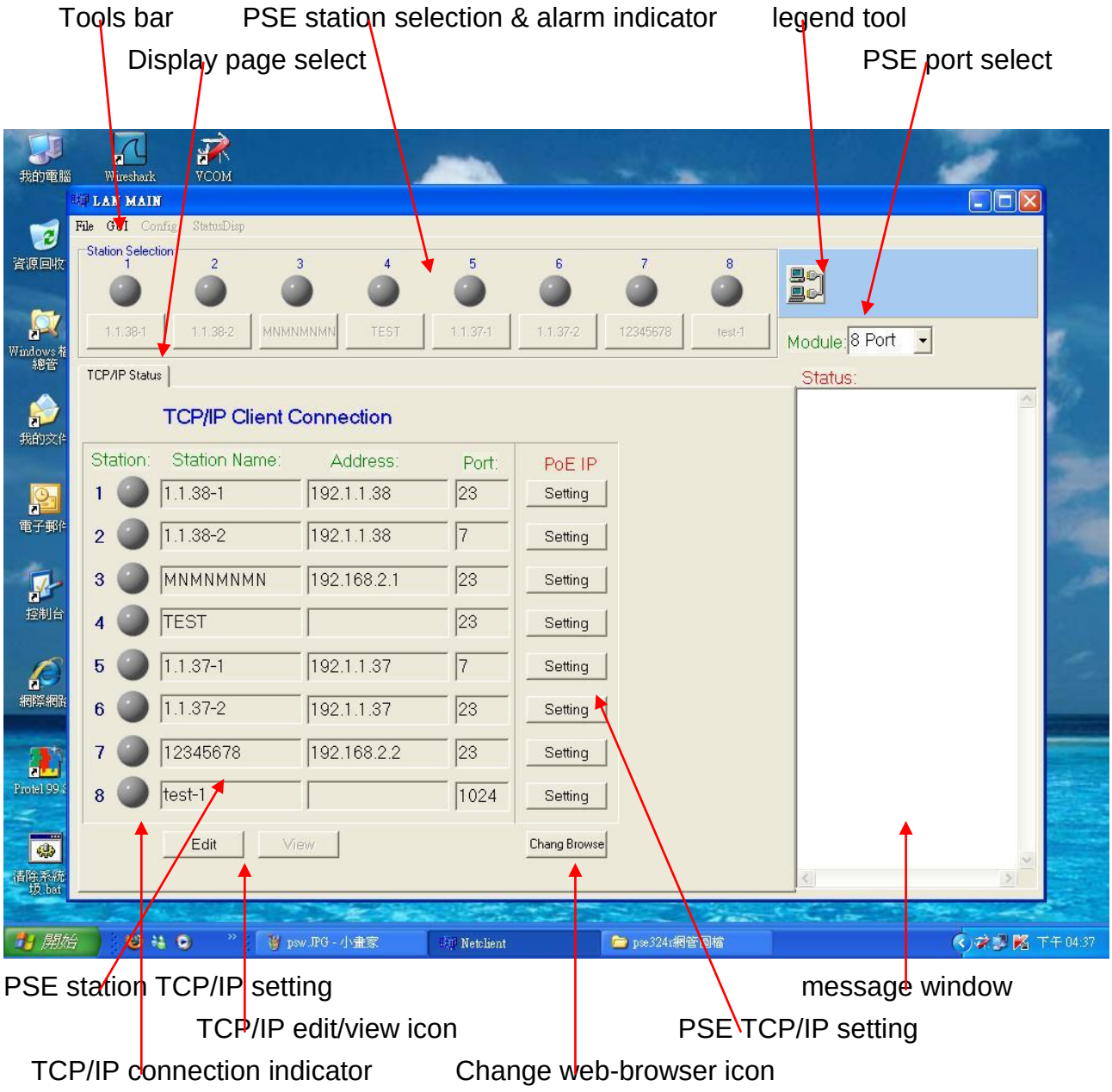
1. Insert the software utility CD-ROM into your CD-ROM drive.
2. Run the "setup.exe".
3. You will see the installation screen display.
4. Then, click the "Next" button to go next step.


PoE Setup
Welcome
Welcome to the installer for PoE 1.0.
It is strongly recommended that you exit all Windows programs before continuing with this installation.
If you have any other programs running, please click Cancel, close the programs, and run this setup again.
Otherwise, click Next to continue.
< Back
Next >
Cancel

4. GUI Management

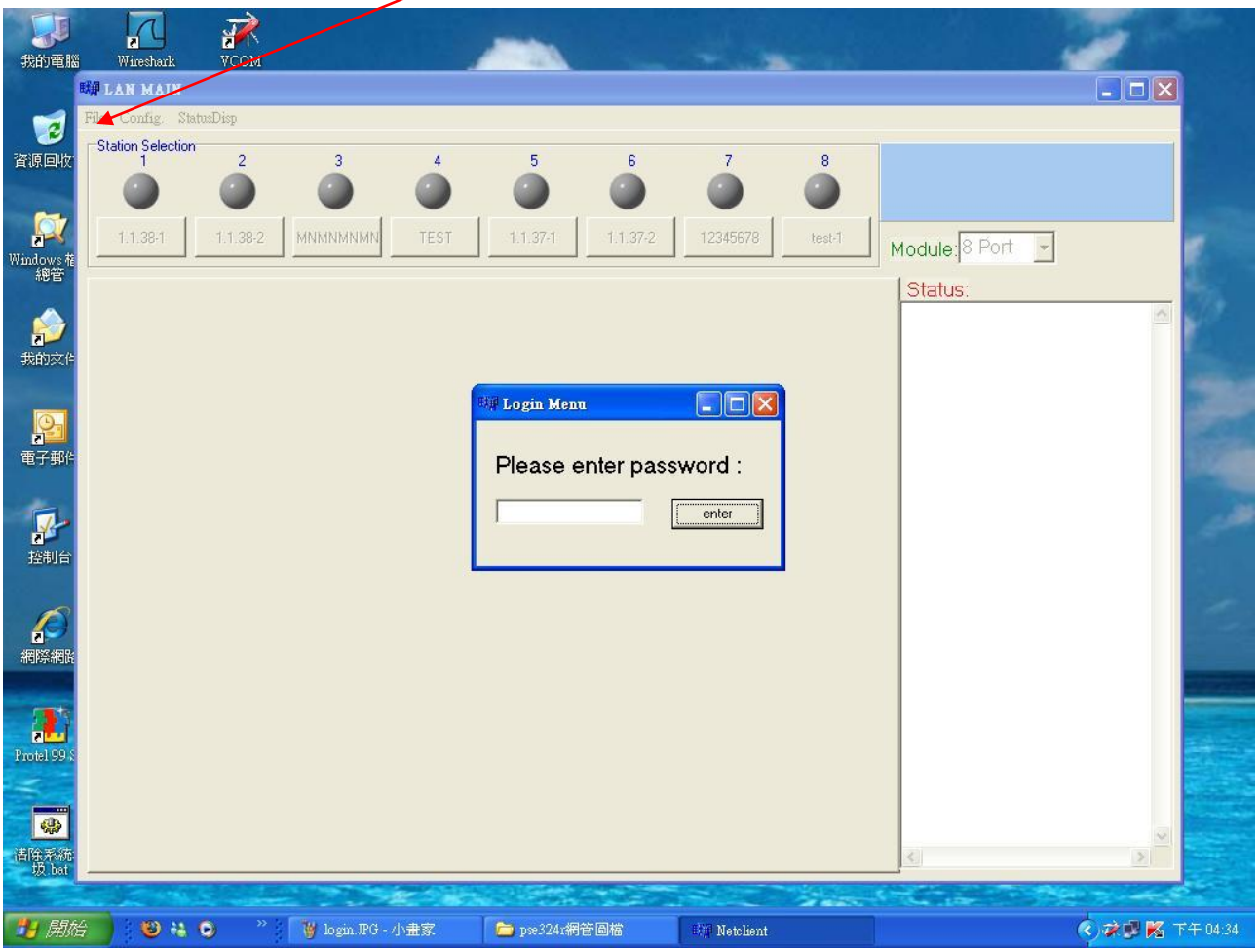
Display and Illustration

Connect the PSE with a PC through the remote control port. Then, run the software utility (Netclient). You will see the main utility interface below.



System Login

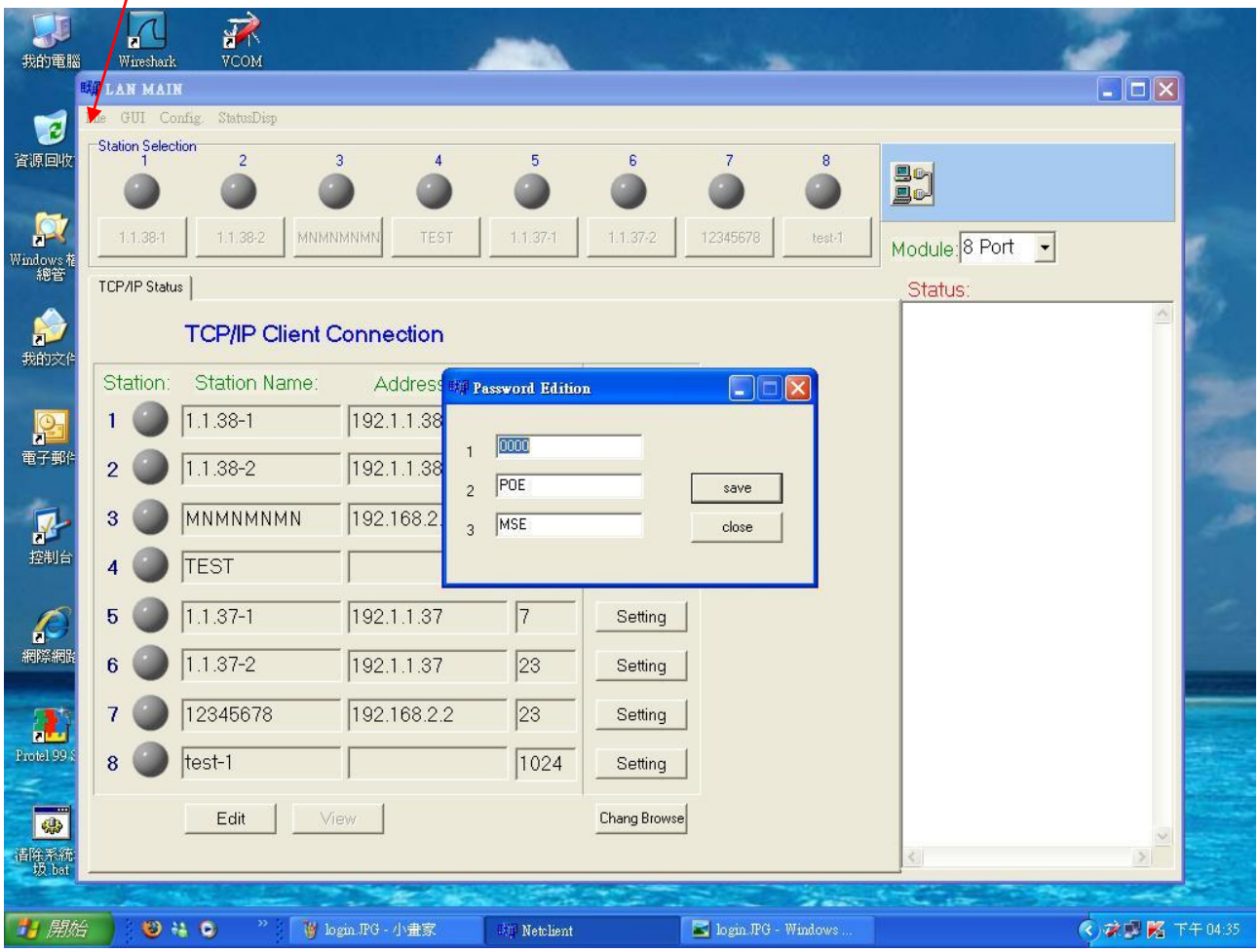
Run the management software or click "File", and select "Login", the system will show the diagram below.



Now enter the password, first enter the default setting which is "0000"

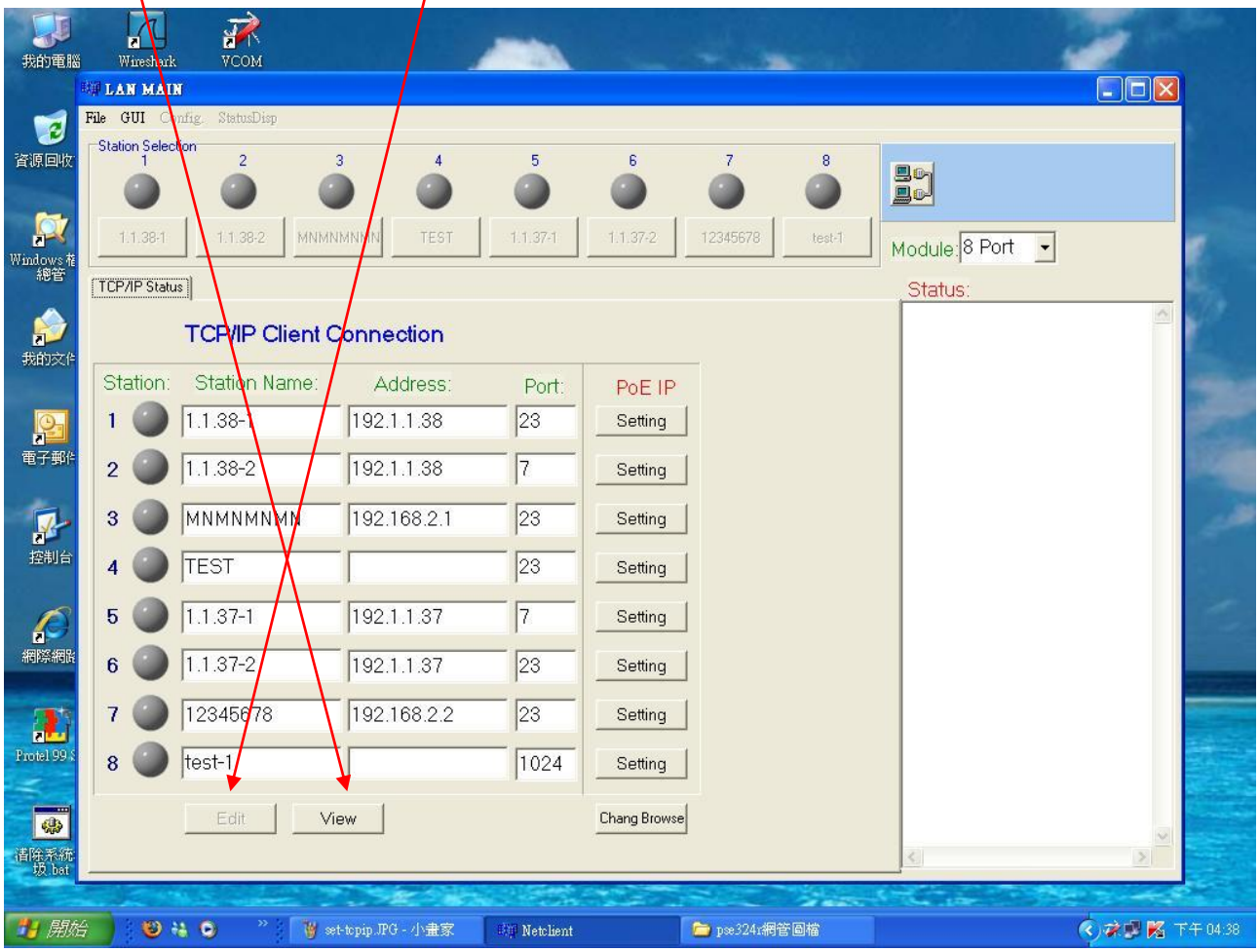
Modify Password

Click "File" and select "Modify PSW", you can modify the password, the system permits 3 sets of password.



Edit Station TCP/IP

In the TCP/IP Status display window, you can edit the station name, TCP/IP address and port number. Click the Edit icon to modify this parameter. In the Edit window, click the View icon to display TCP/IP parameter.



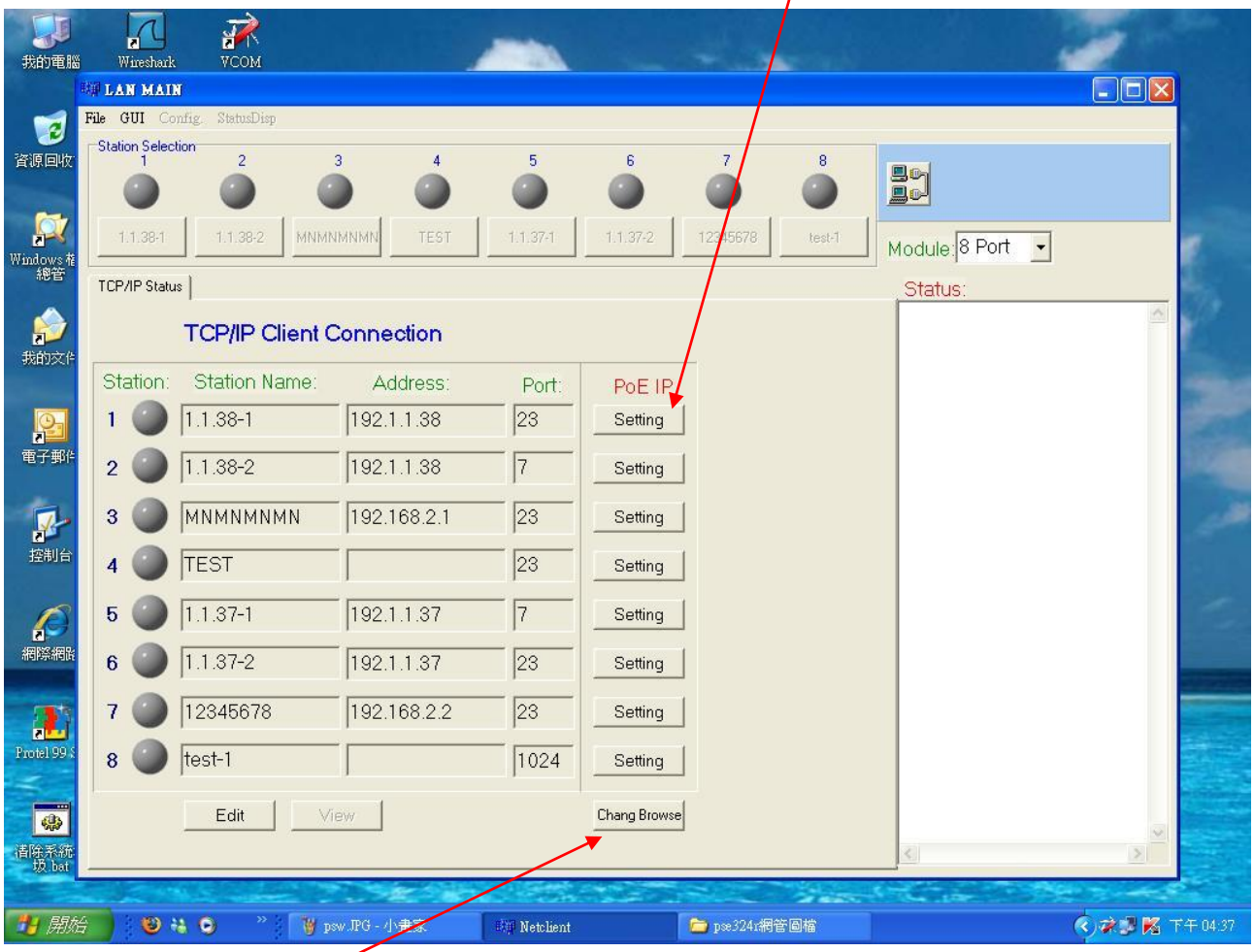
Station Name: You can assign a name to the PSE device.

Address: You can assign the IP address for this PSE station.

Port:: You can assign the port number for this PSE station.

Edit Remote PoE IP

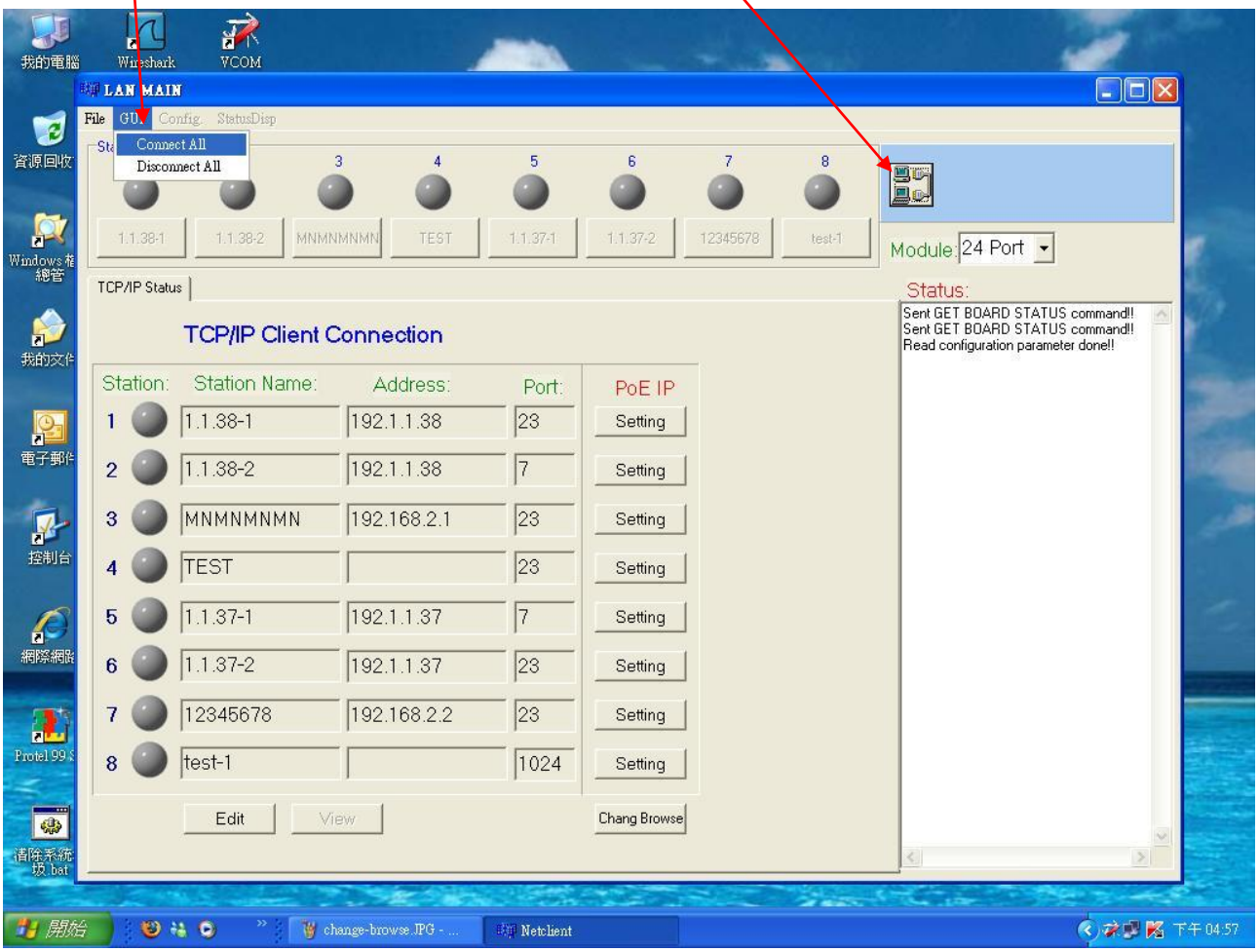
In the TCP/IP Status display window, you can use "PoE IP Setting" icon to start the web-browser. To modify the remote PoE TCP/IP parameter, please reference RJ-45 Remote Control Port of section 2 Hardware Description (page 7).


LAN MAIN
File GUI Config StatusDisp
Station Selection
1 2 3 4 5 6 7 8
1.1.38-1 1.1.38-2 MNMNMNMN TEST 1.1.37-1 1.1.37-2 12345678 test-1
Module: 8 Port
TCP/IP Status
Status:
TCP/IP Client Connection
Station: Station Name: Address: Port: PoE IP
1 1.1.38-1 192.1.1.38 23 Setting
2 1.1.38-2 192.1.1.38 7 Setting
3 MNMNMNMN 192.168.2.1 23 Setting
4 TEST 23 Setting
5 1.1.37-1 192.1.1.37 7 Setting
6 1.1.37-2 192.1.1.37 23 Setting
7 12345678 192.168.2.2 23 Setting
8 test-1 1024 Setting
Edit View Chang Browse
Netclient
pse324x網管圖檔

Change Browse icon: You can use this icon to change the web-browser for remote PoE IP edit. The default web-browser is Microsoft Internet Explorer.

GUI Connect

In the TCP/IP Status display window, edit TCP/IP parameter, then click "GUI" and select "Connect All" command or click "connect" icon, if the Station Select window shows the name icon and displays power status(green or red) light, it means that the PSE connection is correct. You can then select station to configure you PSE.



GUI connect example:

In the Station Selection window, the LED indicates real time connection of PSE.

Green-----this connection and PSE power are normal.

Red--------this connection is OK but PSE power is not correct.

Orange---this connection is not working.

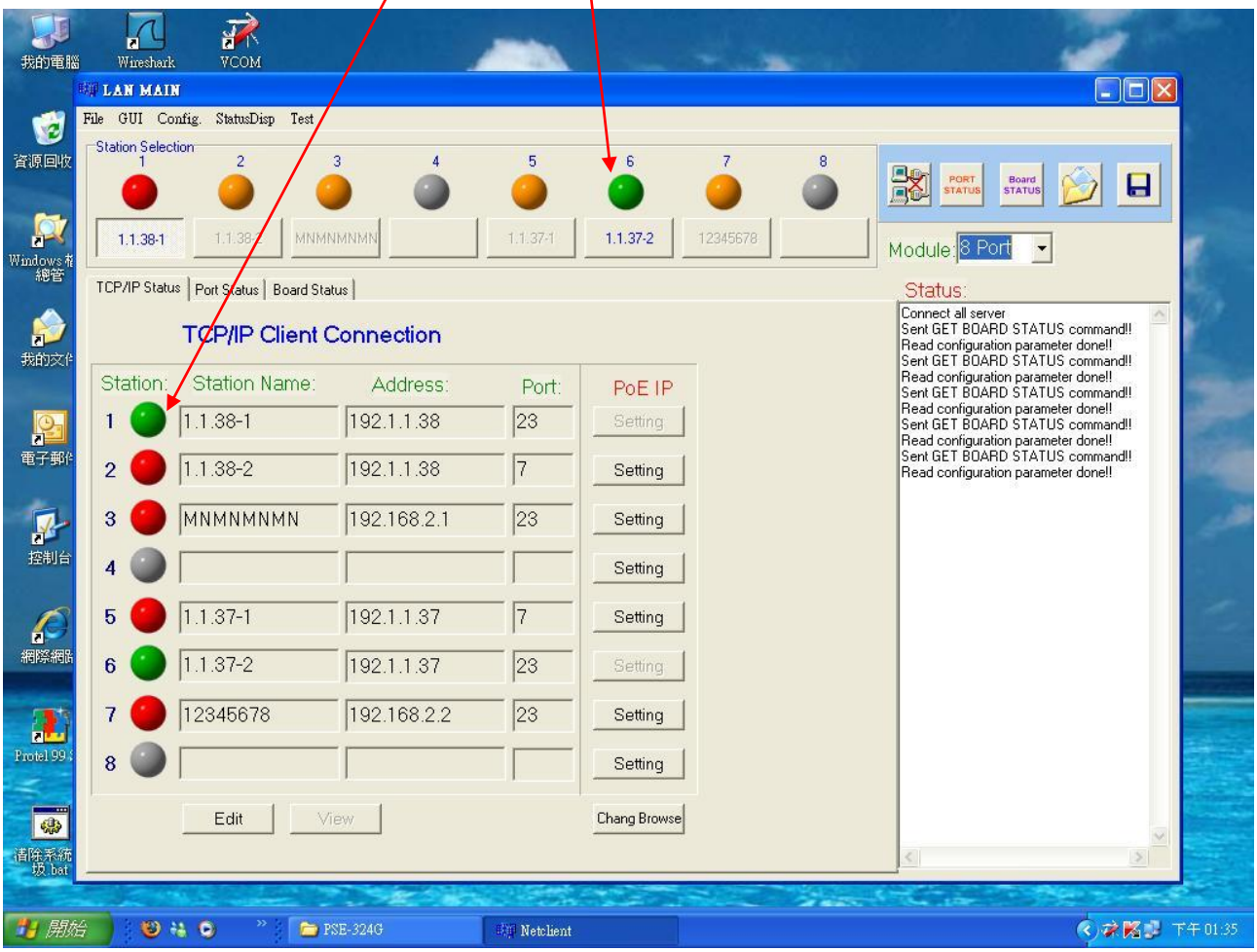
Gray-------this station is not setting.

In the TCP/IP Status window, the LED indicates real time status of TCP/IP.

Green-----TCP/IP connection is OK.

Red--------TCP/IP connection is not working.

Gray-------TCP/IP parameter is not setting.



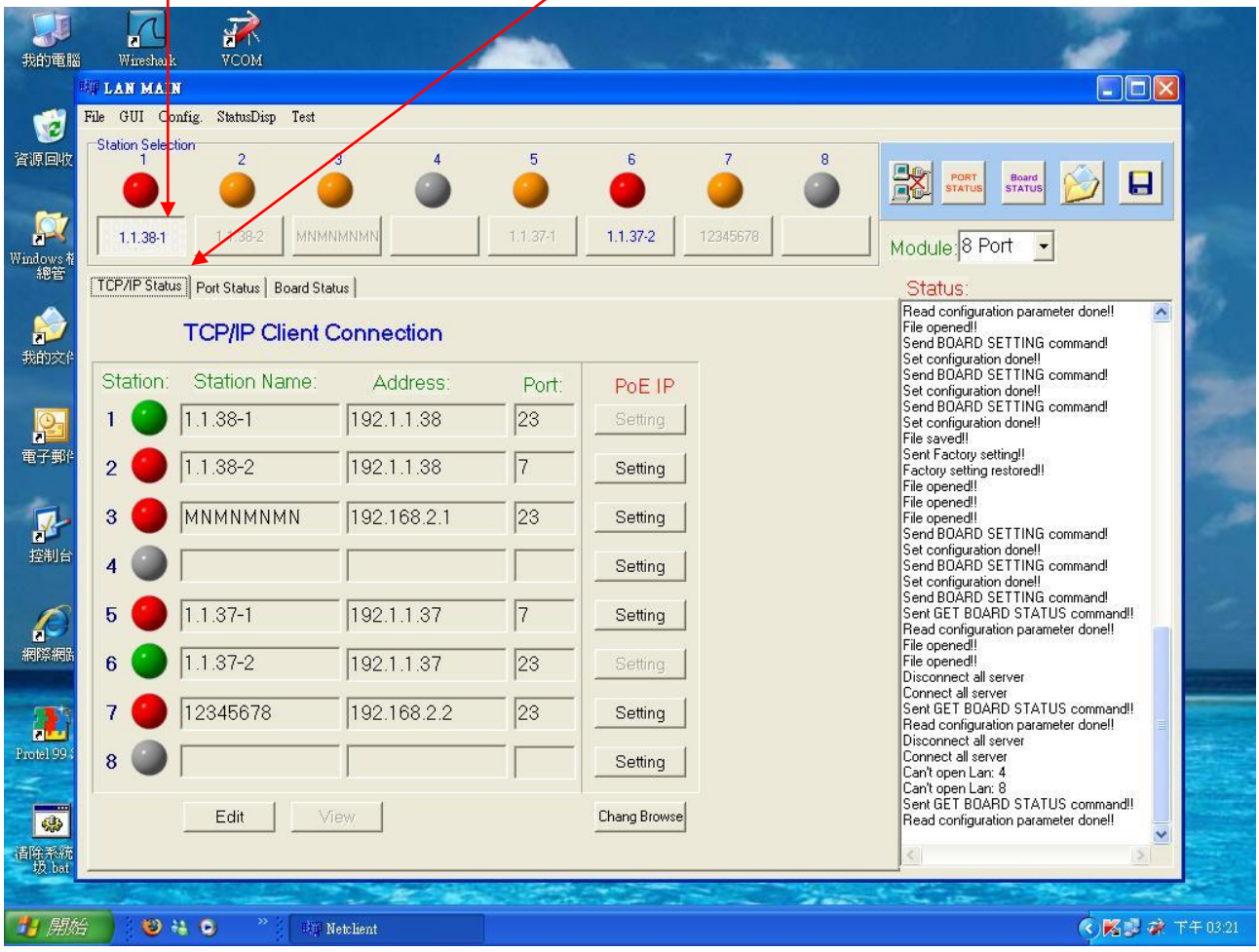
Station and Status Window Select

The PSE management software can monitor 8 PSE simultaneously. In the GUI Disconnect mode, only the TCP/IP Status display window can be used to set the TCP/IP parameter. In the GUI Connector mode, there three display windows can choose - TCP/IP Status/Port Status/Board Status.

Port status and Board Status show relative PSE Station status. If you want to change the status display window, only use the mouse to choose the relative word icon. If you want to change the station, also use the mouse to choose the station name icon.

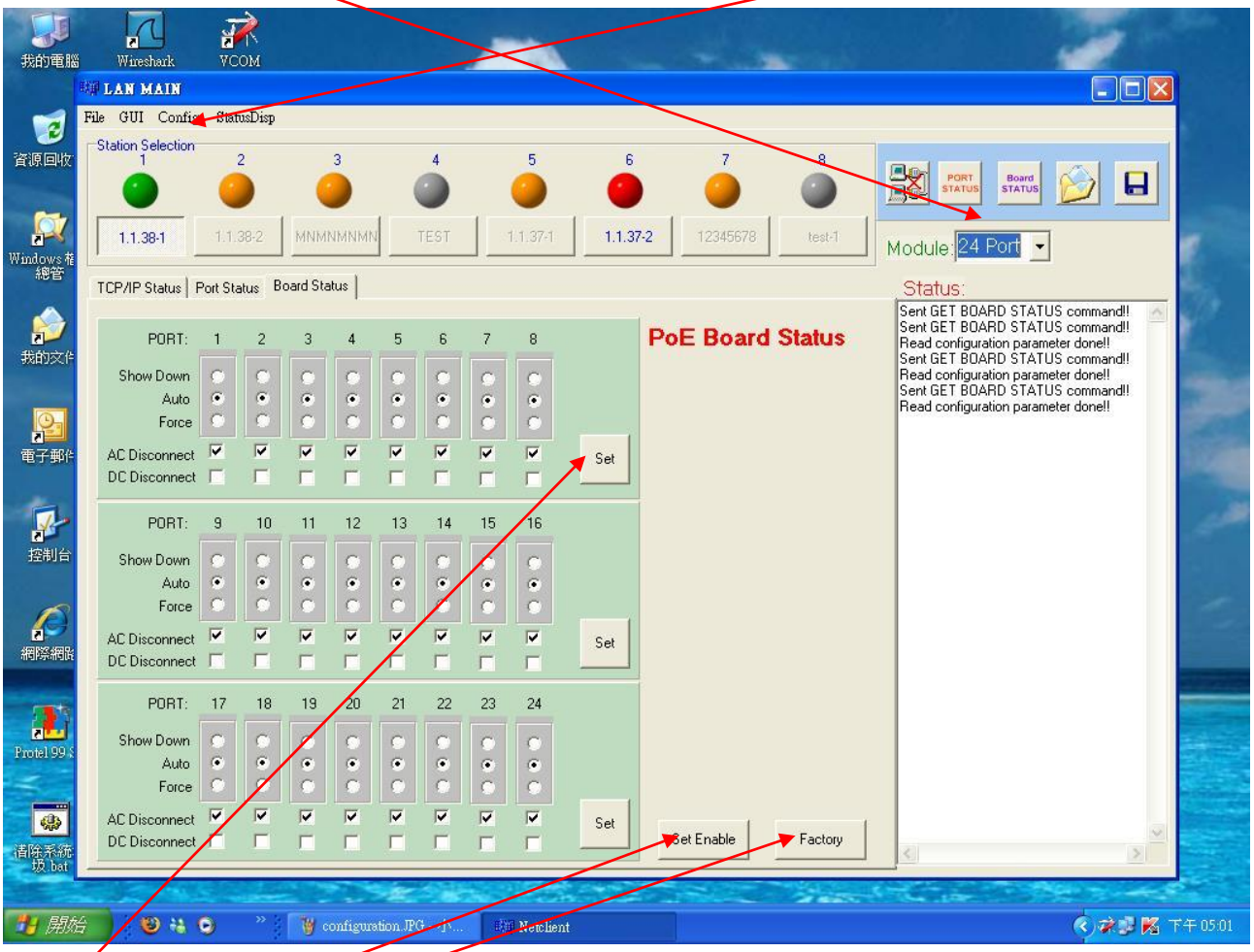
Station Select display icon

Status display icon



Configuration

In the "Module" window, select the suitable port that you require, then, click "Config", and select "Setup", the screen will show the system control panel as below.



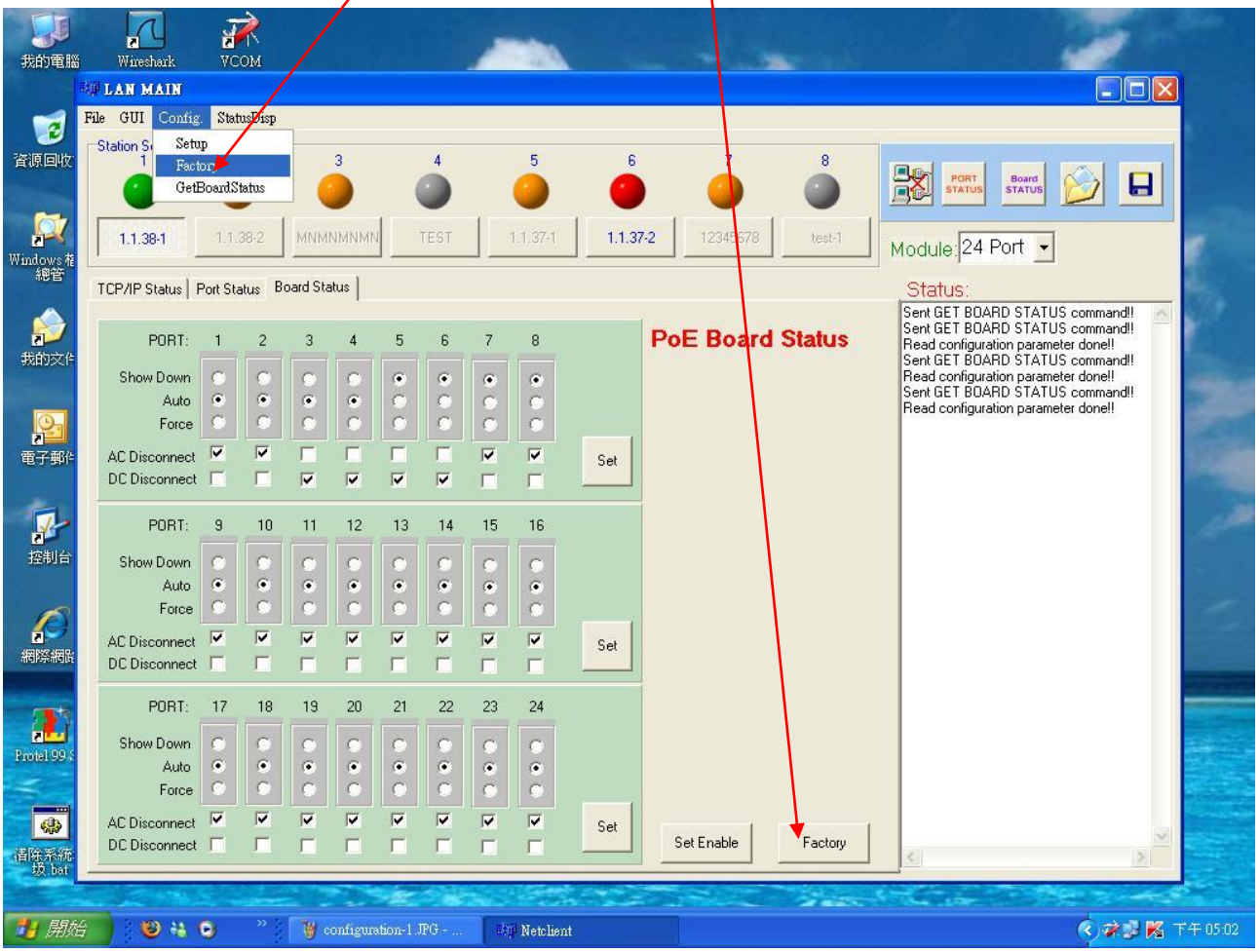
Set icon: Apply the operation mode to PSE system.
Set Enable/Set Disable icon: Change the Board Status window to set enable/disable.
Factory icon: Apply the factory setting to PSE system.

You can setup Operation Mode/ AC Disconnect/ DC Disconnect of each port individually, then, click "Set".

PSE port operates in one of three modes: auto mode, force mode and shutdown mode. In auto mode, the port will detect and classify a PD to connect to, then immediately turn on the power if the detection was successful. In force mode, the port will not detect and classify a PD to connect to, but immediately turn on the power to the port. In shutdown mode, the port is disabled and does not detect or power on a PD.

Factory Setting

Click "Config", and select "Factory" or click the "Factory" icon. The screen will show the factory setting control panel as below:



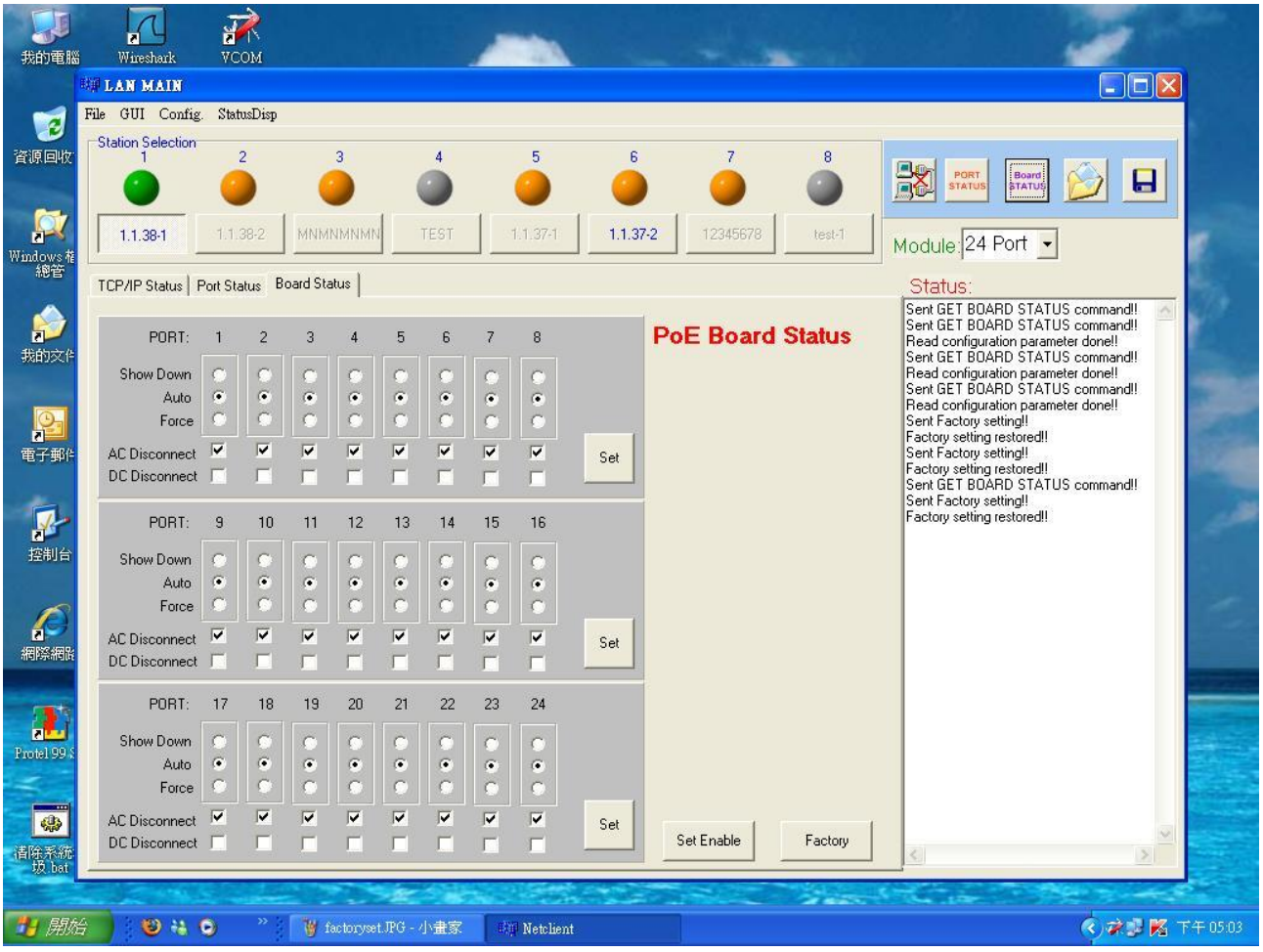
then click "Y" for the Factory Setting.

Factory setting as below:

Operation Mode → Auto (Auto, Force & Shutdown)

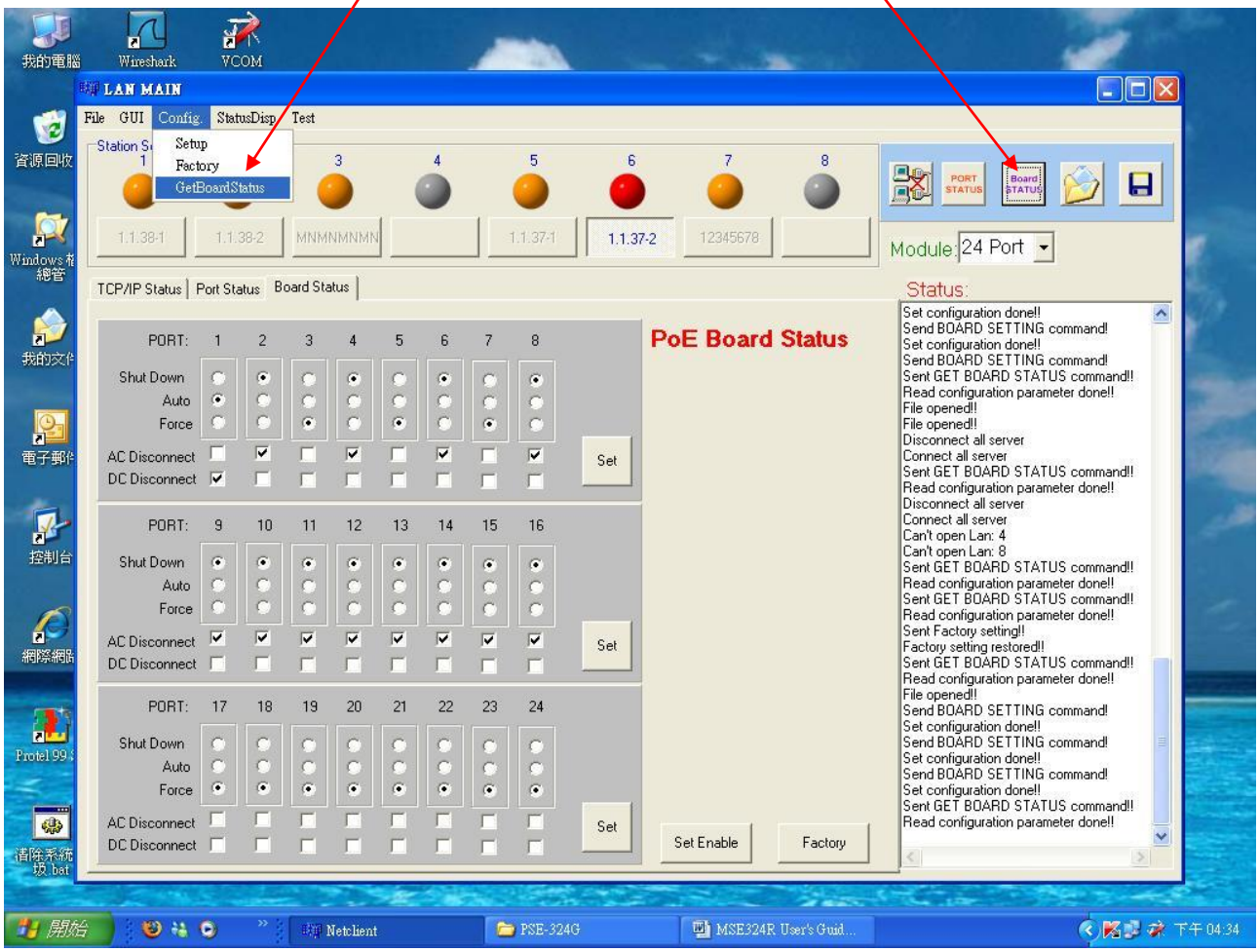
AC Disconnect → On (On & Off)

DC Disconnect → Off (On & Off)



Board Status

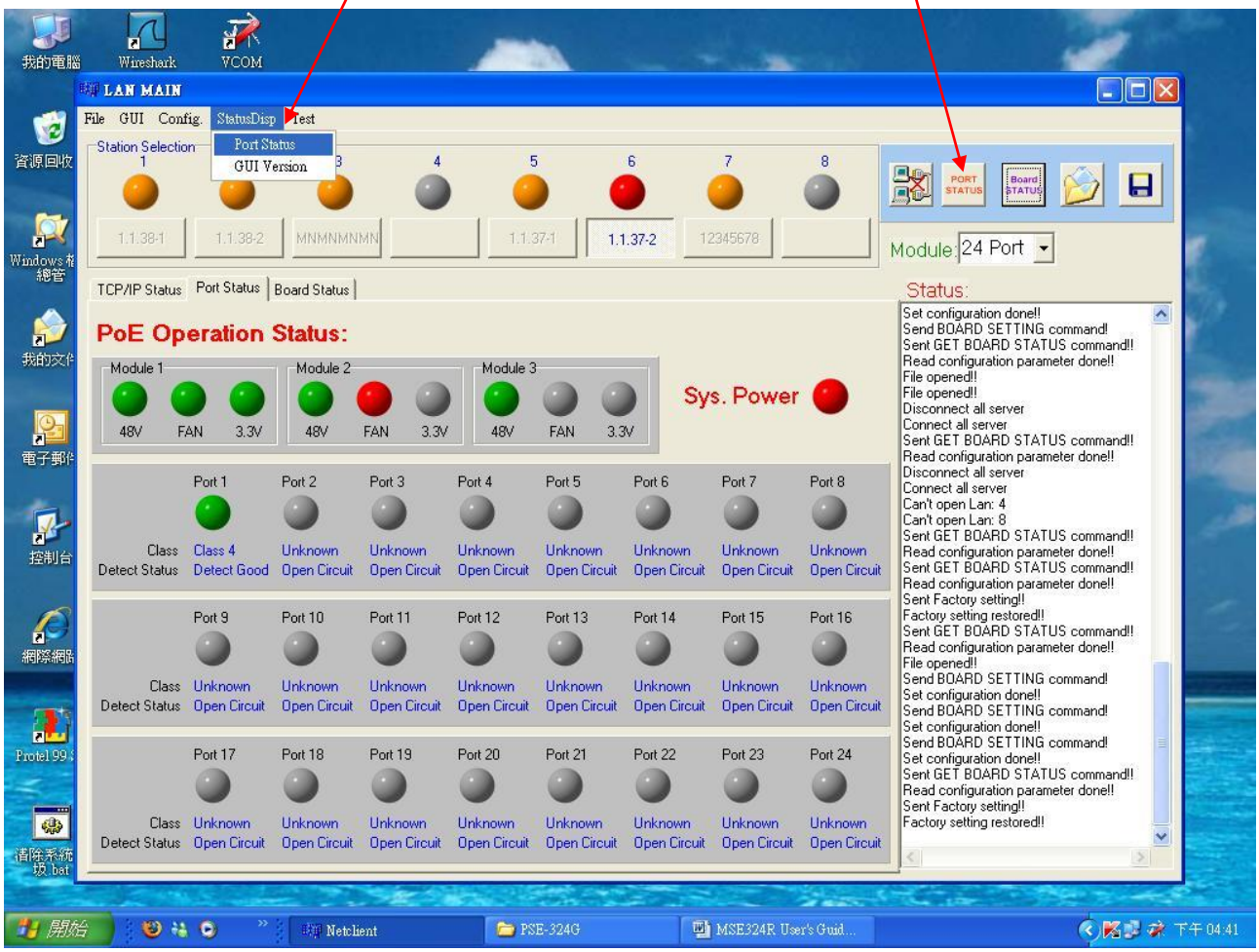
Click "Config", and select "GetBoardStatus", or click "Board STATUS" icon, the screen will show current status of each port.



Port Status

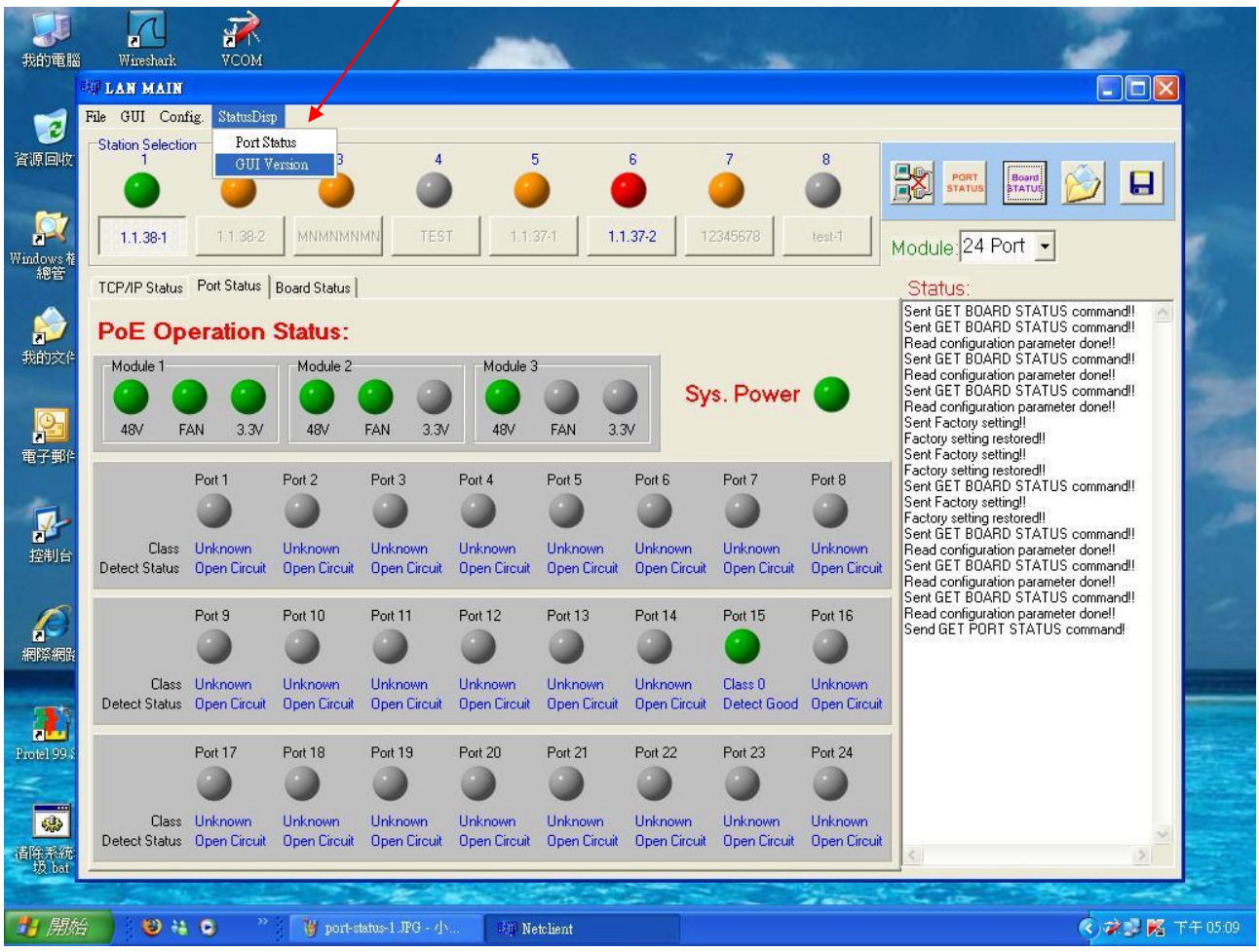
In the "Module" window, select the suitable port that you require, then, click "StatusDisp", and select "PortStatus", or click the "PORT STATUS" icon, the screen will show current status of each port and current power supply status of each module.

If all power modules are working normally, the "Sys. Power" will show a green light, if any module has failed, the light will turn to red.


LAN MAIN
File GUI Config. StatusDisp Test
Port Status
GUI Version
Station Selection
Module 24 Port
TCP/IP Status
Port Status
Board Status
PoE Operation Status:
Module 1
Module 2
Module 3
48V FAN 3.3V
Sys. Power
Status:
Set configuration done!!
Send BOARD SETTING command!
Sent GET BOARD STATUS command!!
Read configuration parameter done!!
File opened!!
Disconnect all server
Connect all server
Can't open Lan: 4
Can't open Lan: 8
Sent Factory setting!!
Factory setting restored!!
Port 1 Port 2 Port 3 Port 4 Port 5 Port 6 Port 7 Port 8
Class Class 4 Unknown Unknown Unknown Unknown Unknown Unknown Unknown
Detect Status Detect Good Open Circuit Open Circuit Open Circuit Open Circuit Open Circuit Open Circuit Open Circuit
Port 9 Port 10 Port 11 Port 12 Port 13 Port 14 Port 15 Port 16
Port 17 Port 18 Port 19 Port 20 Port 21 Port 22 Port 23 Port 24

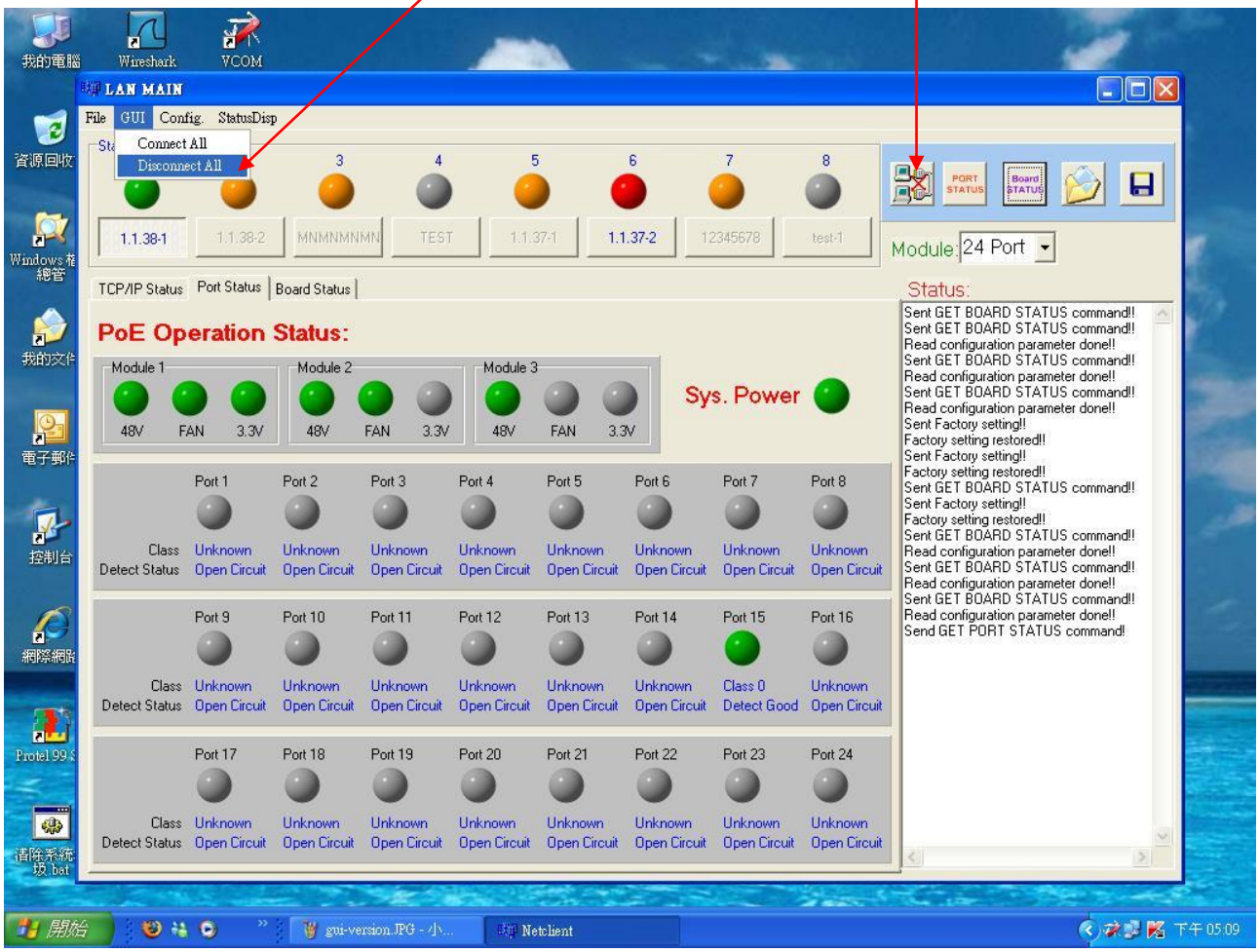
GUI Version

Click "StatusDisp", and select "GUI Version", the screen will show the version of the EMS utility



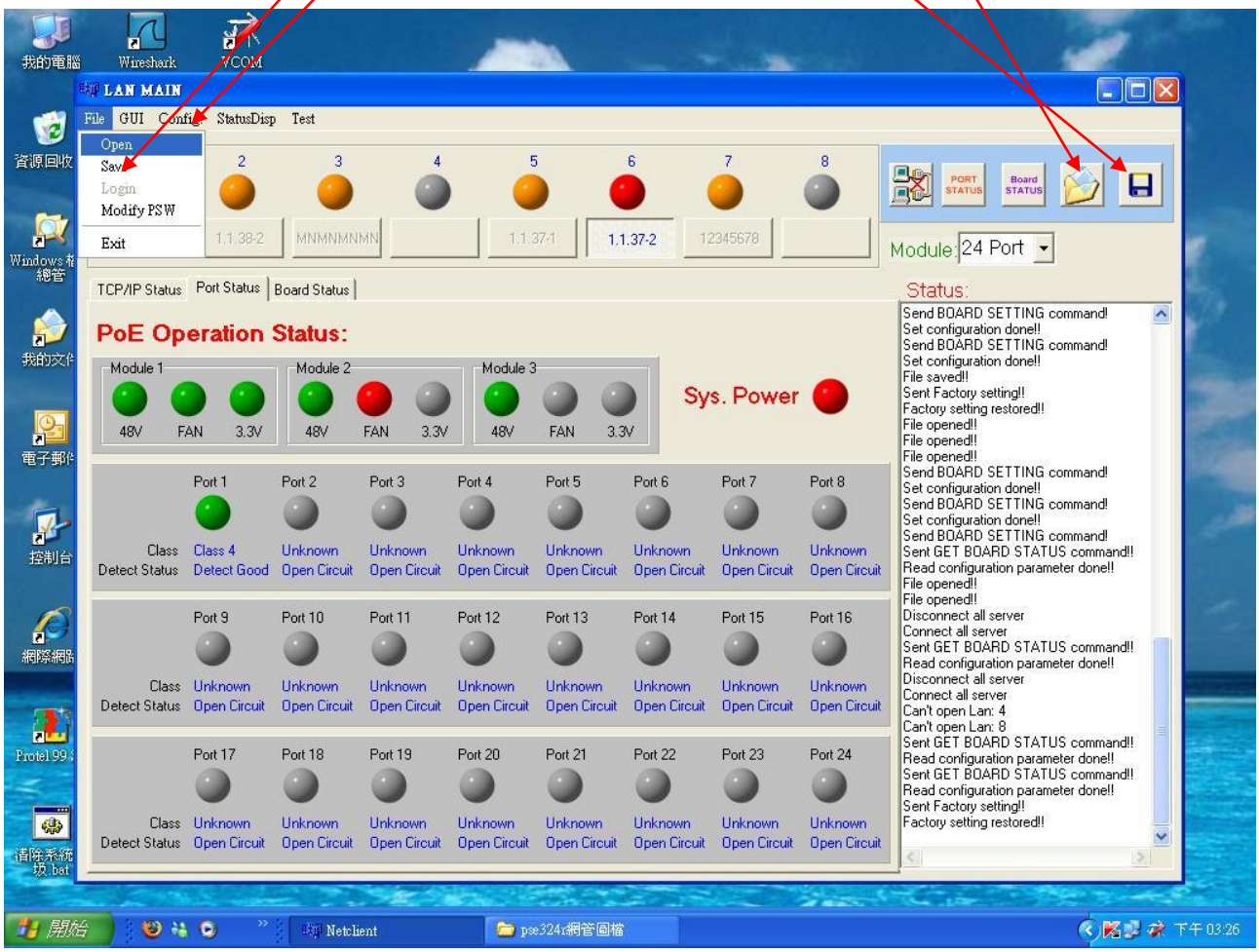
GUI Disconnect

Click the "GUI", and select "Disconnect All", or click the "GUI disconnect" icon to disconnect the communication between GUI and PSE.



File Open and Save

You may click "File" and select "Open", or click the "Open file" icon, to open the previous setting file. Click "Save", or "Save file" icon, to save the current setting.



5. Technical Specification

PARAMETER	TP-MS308	TP-MS316	TP-MS324
Data Ports	8	16	24
PoE Ports	8	16	24
Pass through Data Rates	10/100/1000Mbps		
Console Port	1× RJ45 console interface for management		
Output power	Per port DC 48V@350mA 16.8W(Maximum) Pair4/5(+),Pair7/8(-)		
Power consumption (maximum)	134W	268W	403W
AC Input	100~240VAC,50/60Hz		
DC Input	DC -48V(-42V~-57V)		
Environment	Operating Temperature: 0℃~65℃ Storage Temperature: -20℃~80℃ Humidity: 10%~95%RH (non condense)		
Dimensions	430mm(L) x 290mm(W) x 44mm(H), 19" Rack-Mount / 1U		
Weight	3.2kg	3.9kg	4.6kg

System Diagram